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# TRANSLATION

METHOD OF OBTAINING MULTIFUNCTIONAL ADDITIVES  
TO LUBRICATING OILS

By

A. I. Kartashevskiy and E. S. Tetel'baum

## FOREIGN TECHNOLOGY DIVISION

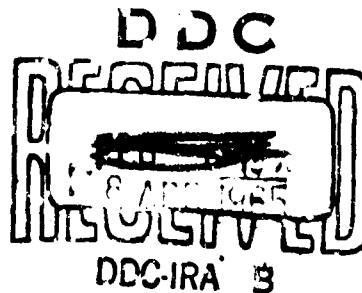
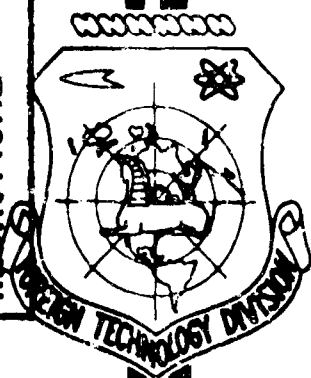
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# UNEDITED ROUGH DRAFT TRANSLATION

METHOD OF OBTAINING MULTIFUNCTIONAL ADDITIVES  
TO LUBRICATING OILS

BY: A. I. Kartashevskiy and E. S. Tetel'baum

English Pages: 2

SOURCE: Patent No. 160251 (Appl. No. 811718/23-4,  
January 2, 1963) (Russian), 1 page.

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PREPARED BY:

TRANSLATION DIVISION  
FOREIGN TECHNOLOGY DIVISION  
WP-APB, OHIO.

## METHOD OF OBTAINING MULTIFUNCTIONAL ADDITIVES TO LUBRICATING OILS

A. I. Kartashevskiy and E. S. Tetel'baum

A method is known for obtaining additives to lubricating oils on the basis of the products of the oxidation of paraffine by treating them with pentasulfide of phosphorus with subsequent neutralization (U. S. Patent 2,424, 272, Cl 252-32.7).

In accordance with the proposed method one treats with pentasulfide of phosphorus an extract produced by a solvent, for example, methanol from oxidized paraffine with the acid number 5-75 mg KON. The neutralization of the product obtained is effected in the presence of alkylphenol compounds bisalkyloxyphenyl sulfide (disulfide) or bisalkyloxyphenylmethane obtained separately or directly from alkylphenol and formaldehyde at the moment of mixing with phosphorized extract.

The amount of alkylphenol component amounts to 10 to 100%, reckoning by the extract. The mixture of phosphorized extract and alkylphenol component is diluted with oil, neutralized with an excess of a hydrate of oxide of a metal (barium, calcium and others) and run through the centrifuge.

In this way, there are obtained additives with alkalinity of 30-70 KON containing 1.2-1.8% of phosphorus, 2.6-4.1% sulphur, 15-20% barium, and 4.5-5.1% calcium. Such additives possess antiooxidizing, anticorrosion and detergent properties.

The corrosiveness of the oil MT-16 with 3% of additive determined in accordance with GOST 5,162 - 49, equals 1.4-2.1 g/m<sup>2</sup>, detergent (cleansing) properties 1 point, and thermooxidation stability 60 minutes.

EXAMPLE. From the oxidized paraffine with the acid number 113 mg KON at 60-62°C (bottom of column) and 47-49°C (top of column) there are extracted oxygen compounds by methanol taken in the amount of 300% by volume. The extract is treated with a 30-percent solution of pentasulfide of phosphorus at 85°C during 3 hours and filtered off. To the phosphorized extract there are added disulfide-alkylphenol in the amount of 100% of the extract and oil diluter in the amount of 200% of the extract.

The mixture is neutralized by hydrate of oxide of barium taken in the amount of 96% of the extract with a gradual rise in the temperature from 45 to 120°C. After removing the moisture, the product is passed through the centrifuge.

The yield of the additive is 420% of the extract.

#### Object of invention

A method of obtaining multifunctional additives to lubricating oils on the basis of products of the oxidation of paraffine through treatment with pentasulfide of phosphorus with subsequent neutralization which is distinguished by the fact that one subjects to treatment by pentasulfide of phosphorus the extract of oxidized paraffine with the neutralization of the product obtained in the presence of alkylphenol compounds.

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